**CSCI 1301 Lecture 1 - Part 2**

Key points of this lecture:  
1- Overview of computer Networks.  
2- Fundamental terminology.  
3- Key concepts.  
  
Networks:  
  
A network is two or more computers that are connected for the data and the recourses of these computers to be shared. Each computer connected to a network will have its own network address. The computer network address is a unique identifier for the computer on the network. A file server is a computer connected to a network with the purpose and the capacity to serve files to other computers.  
  
  
If computers are directly connected to each other on the network, this type of connection is called “point to point” connection. This technique is not practical for large number of computers. Most modern networks share a single communication line. Traveling network traffic will take turns for each computer. Often information traveling is broken down to what is called “packets” which are reassembled at the receiving computer.  
  
  
LAN:  
LAN is a Local-Area-Network. It is a small number of networked computers in a small distance such as a single building or a computer lab in one floor or big classroom.  
  
  
WAN:  
WAN is a Wide-Area-Network. The WAN is two or more LANs connected together over longer distance.  
  
  
The Internet is a WAN that spans the planet.  
  
  
Internet Protocol:  
For the information to travel over connections from one place to another and reaching computers in any part of the world, they must all follow the same set of rules that govern this process. These rules are called “Protocol”. The software that enforces and manages the internet communication follows protocols called “TCP/IP” or Transmission Control Protocol/Internet Protocol. The TCP dictates how packets are reassembled and handles lost information. The IP determines the format of the traveling information.  
  
Each computer has a unique IP address, including servers. Servers on the internet have names, called domain names or web addresses. There is special purpose network software that associates these names with IP addresses. These servers are called Domain Name System or DNS servers. The helps users to connect to interact or request files from servers using meaningful names instead of hard to remember confusing set of numbers representing each IP address. There is no one-to-one association between parts of the IP address and sections of the domain name.  
  
  
Domain Name:  
  
The last part of the domain name, called top-level-domain, indicates the type of the organization. For example “edu” indicates educational organization; “com” is for commercial, and “org” for non-for-profit organization. Sometime a suffix for the country is included such as”.org.uk”.  
  
  
URL:  
  
Uniform Resource Locator is the way to find computers and allocate resources to be accessed on these computers on the internet. URL examples such as <http://www.northgeorgia.edu> “ or “<ftp://java.sun.com/applets/animation.zip>”. The URL includes the protocol, such as ftp or http, a domain name, and a specific document on the server.